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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,059	01/20/2005	Jun Shinozaki	MAT-8640US	1894
23122	7590	04/18/2007		
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			EXAMINER DHINGRA, RAKESH KUMAR	
			ART UNIT	PAPER NUMBER
			1763	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/522,059

Applicant(s)

SHINOZAKI ET AL.

Examiner

Rakesh K. Dhingra

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>01/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al (US PGPub No. 2002/0011205) in view of Tanaka et al (US PGPub No. 2003/0200928).

Regarding Claim 4: Yamazaki et al teach an apparatus for processing (Figure 1A) display comprising:

A substrate holder 102 for a display, the substrate holder being configured with an edge on which the substrate 103 is supported (like a frame), the substrate being held by its periphery with the frame, and the frame holding the substrate being provided with a protrusion (vertical portion of substrate holder 102

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extending to a non-deposition face of the substrate) held in such a way as to surround the substrate 103.

Yamazaki et al teach plurality of vapor deposition source 208, but do not teach substrate holder with plurality of frames. It is known in the art to use substrate holder with plurality of frames to enable produce plurality of displays simultaneously as per reference cited hereunder.

Tanaka et al teach an apparatus for deposition of displays (Figure 11) comprising a frame 14 with multiple openings (like plurality of frames) for processing displays. Tanaka et al further teach that in each of frame openings an individual display can be created (paragraphs 0016, 0020-0038).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use substrate holder with plurality of frames as taught by Tanaka et al et al in the apparatus of Yamazaki et al to enable process plurality of displays simultaneously.

Further, claim limitation reciting a plasma display and deposition are intended use limitations and since the prior art apparatus meets the structural limitations of the claim, the same is considered capable of meeting the intended use limitations.

Claims 1, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al US Patent No. 6,294,722) in view of Tanaka et al (US PGPUB No. 203/0200928).

Regarding Claims 1, 4: Kondo et al teach an apparatus and method for deposition on substrate for solar battery (Figure 2) comprising:

A substrate holder 1 for a substrate, the substrate holder being configured with a frame with opening 1a, the substrate 2 being held by its periphery with the frame, and the frame holding the substrate being provided with a protrusion (portion of substrate holder 1 extending to a non-deposition face of the substrate 2) held in such a way as to surround the substrate 2. Kondo et al do not teach plurality of frames but it is known in the art to use substrate holder with plurality of frames to enable produce plurality of displays simultaneously as per reference cited hereunder.

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Tanaka et al teach an apparatus for deposition of displays (Figure 11) comprising a frame 14 with multiple openings (like plurality of frames) for processing displays. Tanaka et al further teach that in each of frame openings an individual display can be created (paragraphs 0016, 0020-0038).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use substrate holder with plurality of frames as taught by Tanaka et al et al in the apparatus of Kondo et al to enable process plurality of displays simultaneously.

Further, claim limitation reciting deposition on plasma display is an intended use limitations and since the prior art apparatus meets the structural limitations of the claim and is used for deposition on similar items that is, solar battery module, the same is considered capable of meeting the intended use limitation, that is deposition on plasma display panels.

Claims 1, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubs (US Patent No. 5,738,729) in view of Tanaka et al (US PG PUB No. 203/0200928).

Regarding Claim 4: Dubs teaches an apparatus and method for coating (depositing) on a flat substrate (Figures 5, 6) comprising:

A substrate holder for a substrate 3, the substrate holder being configured with a frame 1 with opening, the substrate 3 being held by its periphery with the frame, and the frame holding the substrate being provided with a protrusion (portion of frame 20 extending to a non-deposition face of the substrate 3) held in such a way as to surround the substrate 2. Dubs does not teach plurality of frames but it is known in the art to use substrate holder with plurality of frames to enable produce plurality of displays simultaneously as per reference cited hereunder.

Tanaka et al teach an apparatus for deposition of displays (Figure 11) comprising a frame 14 with multiple openings (like plurality of frames) for processing displays. Tanaka et al further teach that in each of frame openings an individual display can be created (paragraphs 0016, 0020-0038).

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Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use substrate holder with plurality of frames as taught by Tanaka et al et al in the apparatus of Kondo et al to enable process plurality of displays simultaneously.

Further, claim limitation reciting a deposition on plasma display is an intended use limitations and since the prior art apparatus meets the structural limitations of the claim and is used for coating on flat substrates, the same is considered capable of meeting the intended use limitation.

Claims 2, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al US Patent No. 6,294,722) in view of Tanaka et al (US PG PUB No. 203/0200928) as applied to claims 1, 4 and further in view of Patadia et al (US Patent No. 6,146,504).

Regarding Claims 2, 4: Kondo et al in view of Tanaka et al teach all limitations of the claim except height of protrusion.

Patadia et al teach a deposition apparatus (Figure 1, 9) comprising a substrate support 110 for supporting a substrate and a dam 132 (protrusion) is provided around the perimeter of the substrate receiving surface of support to minimize backside deposition on the substrate. Patadia et al further teach that position and dimensions of the dam 132 (protrusion) are optimized to prevent the reaction material reaching backside of substrate (column 7, line 65 to column 8, line 65). Though Patadia et al do not explicitly teach the specific dimension of the protrusion, it would be obvious to optimize the height of protrusion as per process limitations like type of gases, gas flow rate and gas pressure.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the height of protrusion as taught by Patadia et al in the apparatus of Kondo et al in view of Tanaka et al to minimize backside deposition on the substrate.

Claims 3, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al US Patent No. 6,294,722) in view of in view of Tanaka et al (US PG PUB No. 203/0200928) as applied to Claims 1, 4 and further in view of Hiroki et al (US Patent No. 5,374,147).

Regarding Claims 3, 6: Kondo et al in view of Tanaka et al teach all limitations of the claim including substrate holder (frame) 1 for holding substrate, but do not teach holding means including supporting means and positioning means.

Applicant has invoked 35 USC 112, 6th paragraph in respect of claim limitation “ the frame comprising holding means including support means for supporting the substrate from underneath and positioning means for positioning the substrate in a planar direction, wherein the substrate is held by fitting the substrate to the positioning means and placing the substrate on the support means”, and for which the possible structures disclosed in the specification are described in specification (page 12, line 7 to page 13, line 11 and as per Figures 5-8) and comprise of support means and positioning means for supporting and positioning the substrate.

Hiroki et al teach an apparatus (Figure 12) for supporting a substrate 2 by a stage 73 (frame) and where the stage (frame) comprises holding means including supporting projections 88 (support means) and positioning means (shoes 83, 84 with stoppers 85, 86) for positioning the substrate 2 in a planar direction, wherein the substrate is held by fitting the substrate to the positioning means (83-86) and placing the substrate on the support means 88 (column 10, lines 13-63).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use frame with support means and positioning means as taught by Hiroki et al in the apparatus of Kondo et al in view of Tanaka et al to ensure correct positioning of the substrate.

Claims 3, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dubs (US Patent No. 5,738,729) in view of Tanaka et al (US PG PUB No. 203/0200928) as applied to Claims 1, 4 and further in view of Hiroki et al (US Patent No. 5,374,147).

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Regarding Claims 3, 6: Dubs in view of Tanaka et al teaches all limitations of the claim including frame 20 for holding substrate, but do not teach holding means including supporting means and positioning means.

Applicant has invoked 35 USC 112, 6th paragraph in respect of claim limitation “ the frame comprising holding means including support means for supporting the substrate from underneath and positioning means for positioning the substrate in a planar direction, wherein the substrate is held by fitting the substrate to the positioning means and placing the substrate on the support means”, and for which the possible structures disclosed in the specification are described in specification (page 12, line 7 to page 13, line 11 and as per Figures 5-8) and comprise of support means and positioning means for supporting and positioning the substrate.

Hiroki et al teach an apparatus (Figure 12) for supporting a substrate 2 by a stage 73 (frame) and where the stage is comprises holding means including supporting projections 88 (support means) and shoes 83, 84 with stoppers 85, 86 (positioning means) for positioning the substrate 2 in a planar direction, wherein the substrate is held by fitting the substrate to the positioning means (83-86) and placing the substrate on the support means 88 (column 10, lines 13-63).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use frame with support means and positioning means as taught by Hiroki et al in the apparatus of Dubs in view of Tanaka et al to ensure correct positioning of the substrate.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh K. Dhingra whose telephone number is (571)-272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Rakesh Dhingra



Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763